

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Shinya Kadono et al

Serial No.: 10/569,871

Filed: February 28, 2006

For: PICTURE CODING METHOD,  
PICTURE DECODING METHOD,  
PICTURE CODING APPARATUS,  
PICTURE DECODING APPARATUS

Patent Examiner: Bocure, Tesfaldet

Group Art Unit: 2611

Confirmation No.: 8451

October 20, 2010

Costa Mesa, California 92626

**RESPONSE TO OFFICE ACTION**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

In response to the Office Action of August 2, 2010, please amend the above identified application as follows:

**IN THE SPECIFICATION:**

Please amend Paragraph [0119] to read as follows:

[0119] The above description is given on the assumption that a recording medium is a flexible disk, but an optical disc may also be used. In addition, the recording medium is not limited to this, and any other medium such as an IC card and a ROM cassette capable of recording a program can also be used as a non-transitory recording medium.

**IN THE CLAIMS:**

1-26. (Cancelled)

27. (Currently Amended) A method for coding a quantization matrix in which each component takes a value ranging from 1 to 255 with a picture coding apparatus, said method comprising:

calculating a difference value between a value of an I-th component and a value of an (I-1)th component in the quantization matrix;

determining an offset value as +256 when the difference value is smaller than -128;

determining the offset value as -256 when the difference value is equal to or greater than +128;

adding a determined offset value and the difference value; and

coding a result of said adding.

28. (Previously Presented) The method for coding a quantization matrix according to Claim 27, wherein the result of said adding is a value ranging from -128 to +127.

29. (Currently Amended) A method for decoding a coded quantization matrix with a picture decoding apparatus, said method comprising:

decoding a coded stream into a difference value ranging from -128 to +127;

adding together a value of an (I-1)th component in the quantization matrix, the difference value, and 256; and

calculating a remainder by dividing the result of said adding by 2 raised to 8-th power to obtain the value of an I-th component.

30. (Previously Presented) The method for decoding a coded quantization matrix according to Claim 29 wherein said decoding of the coded stream includes:

counting the number N of subsequent zeros from the beginning of the coded stream;

reading one bit of value one subsequent to the N number of zeros and N-bits subsequent to the one bit of value one; and

obtaining, as to the different value, a value corresponding to the N-bits.

31. (Previously Presented) The method for decoding a coded quantization matrix according to Claim 29, wherein said decoding of the coded stream is finished when the obtained value of the I-th component is zero.

32. (Previously Presented) The method for decoding a coded quantization matrix according to Claim 29, wherein the result of said adding is a positive value.

33. (Previously Presented) A coding apparatus which codes a quantization matrix in which each component takes a value ranging from 1 to 255, said apparatus comprising:

a subtraction unit operable to calculate a difference value between a value of an I-th component and a value of an (I-1)th component in the quantization matrix;

an offset value determination unit operable to determine an offset value as +256 when the difference value is smaller than -128, and to determine the offset value as -256 when the difference value is equal to or greater than +128;

an addition unit operable to add the offset value and the difference value; and  
a coding unit operable to code a result of said adding.

34. (Previously Presented) An apparatus for decoding a coded quantization matrix, said apparatus comprising:

a decoding unit operable to decode a coded stream into a difference value ranging from -128 to +127;

an addition unit operable to add together a value of an (I-1)th component in the quantization matrix, the difference value, and 256; and

a calculation unit operable to calculate a remainder by dividing a result of said adding by 2 raised to 8-th power to obtain the value of the I-th component.

35. (Previously Presented) An integrated circuit for use in a decoding apparatus which decodes a coded quantization matrix, said integrated circuit comprising:

an operation unit operable to:

decode a coded stream into a difference value ranging from -128 to +127;

add together a value of an (I-1)th component in the quantization matrix, the difference value, and 256; and

calculate a remainder by dividing a result of said adding by 2 raised to 8-th power to obtain the value of an I-th component which is an integer equal to or smaller than 255.

36. (Currently Amended) A non-transitory computer readable recording medium for storing a program, which is used in a computer, for decoding a moving picture, said program causing a computer to execute steps for decoding a coded quantization matrix, wherein said steps include:

decoding a coded stream into a difference value ranging from -128 to +127;

adding together a value of an (I-1)th component in the quantization matrix, the difference value, and 256; and

calculating a remainder by dividing a result of said adding by 2 raised to 8-th power to obtain the value of an I-th component which is an integer equal to or smaller than 255.

37. (Cancelled)

**REMARKS**

The Office Action indicated that Claims 27-36 were allowable.

Applicant has cancelled Claim 37 which was rejected under 35 U.S.C. §101 and has further amended the specification to define specifically that the storage medium, which can be computer readable, are tangible non-transitory recording mediums.

The Office Action raised an issue with regards to the cited Japanese patent applications in the Supplemental Information Disclosure Statement filed on September 21, 2007. As can be seen from both the face sheet of that document and the attached PTO A820, applicant submitted corresponding patent application publications along with the EP 0777387 documents to provide the equivalent English translation.

In this regard, it is noted in some cases that the Chinese dates are not the same as the English corresponding patent applications or patents and we hereby provide a complete record in disclosure of potential different earlier dates for prior art purposes.

It is believed, however, that the submission of the English corresponding US patent application and US patents more than adequately fulfill a disclosure of the technical prior art that applicant was aware of from a co-pending prosecution of a Japanese patent application.

Applicant had submitted a copy (attached hereto) of the English translation of the *General Image Compression Coding Principle of MPEG-2* of September 1997, Pages 13-15 in the Supplemental Information Disclosure Statement of September 21, 2007 (See USPTO Acknowledgment Receipt). Applicant is resubmitting a copy of that document with the PTO A820 for convenience of the Examiner.

Additionally, Pages 55 to 60 of Chapter 3: Differential Coding from the publication "Image and Video Compression for Multimedia Engineering" was submitted on April 30, 2009

(see USPTO Acknowledgment Receipt) and we are re-submitting this document.

If there are any questions, the undersigned attorney can be contacted at the listed phone number.

Finally, applicant has voluntarily amended the allowed claims to provide apparatus structure in the method claims for effectuating the steps of the method. As can be readily appreciated, our drawings and specification more than adequately define examples of implementing our methods including various forms of software that can be implemented through a computer from a storage medium such as a CD-ROM, DVD, flexible disk, hard disk, EE proms, IC cards and optical disks which were well known in the art at the time of our invention.

Additionally, both the picture coding apparatus and picture decoding apparatus can be implemented with computer based systems either dedicated or implemented with a program reconfiguring a general purpose computer to perform the steps of our invention.

Finally, as noted in our Paragraph [0144] of our published application, the functional blocks set forth in the various illustrated embodiments of our block diagrams, can be realized as an integrated circuit apparatus in one or more chip forms.

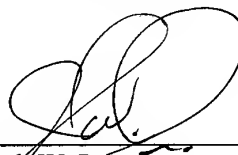
It is believed that applicant has more than adequately addressed the outstanding issues in the Office Action and that the present application is now in condition for allowance, and an early notification of the same is requested.



If the Examiner believes a telephone interview will assist in the prosecution of this matter, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

**SNELL & WILMER L.L.P.**

A handwritten signature in black ink, appearing to read 'J. Price', is written over a horizontal line.

Joseph W. Price  
Registration No. 25,124  
600 Anton Boulevard, Suite 1400  
Costa Mesa, CA 92626  
Telephone: (714) 427-7420  
Facsimile: (714) 427-7799

**Acknowledgement Receipt**

The USPTO has received your submission at **18:20:03** Eastern Time on **21-SEP-2007**.

No fees have been paid for this submission. Please remember to pay any required fees on time to prevent abandonment of your application.

**eFiled Application Information**

EFS ID	2228798
Application Number	10569871
Confirmation Number	8451
Title	Picture Coding Method, Picture Decoding Method, Picture Coding Apparatus, Picture Decoding Apparatus
First Named Inventor	Shinya Kadono
Customer Number or Correspondence Address	52044
Filed By	Joseph W. Price/Sharon Farnus
Attorney Docket Number	44802-0300
Filing Date	28-FEB-2006
Receipt Date	21-SEP-2007
Application Type	U.S. National Stage under 35 USC 371

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**Application Details**

Submitted Files	Page Count	Document Description	File Size	Warnings
44802-0300_IDS.pdf	3	Information Disclosure Statement Letter	171954 bytes	◆ PASS
0777387.pdf	16	Foreign Reference	1484747 bytes	◆ PASS
1088041.pdf	11	Foreign Reference	699774 bytes	◆ PASS
1158058.pdf	25	Foreign Reference	1761444 bytes	◆ PASS
1243636.pdf	80	Foreign Reference	4693941 bytes	◆ PASS
1354605.pdf	34	Foreign Reference	2020386 bytes	◆ PASS
MPEG-2.pdf	12	NPL Documents	1798724 bytes	◆ PASS



This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

*If you need help:*

- *Call the Patent Electronic Business Center at (866) 217-9197 (toll free) or e-mail [EBC@uspto.gov](mailto:EBC@uspto.gov) for specific questions about Patent e-Filing.*
- *Send general questions about USPTO programs to the USPTO Contact Center (UCC) .*
- *If you experience technical difficulties or problems with this application, please report them via e-mail to [Electronic Business Support](mailto:Electronic Business Support) or call 1 800-786-9199.*

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Shinya Kadono et al.

Serial No.: 10/569,871

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PICTURE DECODING METHOD,  
PICTURE CODING APPARATUS,  
PICTURE DECODING  
APPARATUS

Group Art Unit: 2624

Confirmation No.: 8451

September 21, 2007

Costa Mesa, California 92626

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**SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In an attempt to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56 and in conformance with 37 C.F.R. §§ 1.97 and 1.98, applicant wishes to bring to the attention of the U.S. Patent Office the following references, which were found during the prosecution of a co-pending Chinese patent application:

CN 1354605

See family US 7,082,163 and US 2002/0085636 for English translations;

CN 1243636

See family US 6,963,606 for English translation;

CN 1088041

See family US 5,500,677 for English translation;

CN 1143885

See family US 5,742,342 for English translation;

CN 1158058

See EP 0777387 for English translation;

“General Image Compression Coding Principle of MPEG-2”; 9-1997; Pages 13-15;

©China Academic Journal Electronic Publishing House 1994-2006; with English translation.

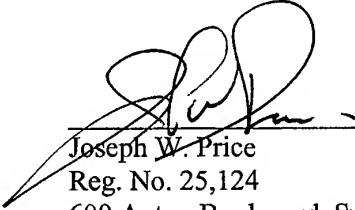
A copy of the foreign references, non-patent literature and form PTO-A820 are attached.

The undersigned attorney hereby certifies that each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing the information disclosure statement.

If the Examiner believes that a telephone conference would help further the prosecution of this case, he is respectfully requested to contact the undersigned attorney at the listed telephone number.

Very truly yours,

SNELL & WILMER LLP



\_\_\_\_\_  
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600 Anton Boulevard, Suite 1400  
Costa Mesa, CA 92626-7689  
Tel: 714-427-7420  
Fax: 714-427-7499

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>				Docket Number (Optional) <b>44802-0300</b>		Application Number <b>10/569,871</b>		
				Applicant(s) <b>Shinya Kadono et al.</b>				
				Filing Date <b>February 28, 2006</b>		Group Art Unit <b>2624</b>		
<b>U. S. PATENT DOCUMENTS</b>								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
		7,082,163	7.25.2006	Uenoyama et al.				
		6,963,606	11.8.2005	Yanagihara et al.				
		5,500,677	3.19.1996	Fert				
		5,742,342	4.21.1998	Jung				
<b>U.S. PATENT APPLICATION PUBLICATIONS</b>								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
		2002/0085636	7.4.2002	Uenoyama et al.				
<b>FOREIGN PATENT DOCUMENTS</b>								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
		CN 1354605	6.19.2002	China			YES	NO
		CN 1243636	2.2.2000	China			X	
		CN 1158058	8.27.1997	China			X	
		CN 1088041	6.15.1994	China			X	
		EP 0 777 387	6.4.1997	Europe				
<b>OTHER DOCUMENTS</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>								
		<b>"General Image Compression Coding Principle of MPEG-2"; 9-1997; Pages 13-15; ©China Academic Journal Electronic Publishing House 1994-2006; with English translation.</b>						
EXAMINER				DATE CONSIDERED				
<b>EXAMINER:</b> Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

**Acknowledgement Receipt**

The USPTO has received your submission at **11:08:19** Eastern Time on **01-MAY-2009**.

No fees have been paid for this submission. Please remember to pay any required fees on time to prevent abandonment of your application.

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First Named Inventor	Shinya Kadono
Customer Number or Correspondence Address	52044
Filed By	Joseph W. Price/Sharon Farnus
Attorney Docket Number	44802-0300
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44802-0300_IDS.pdf	3	Transmittal Letter	180648 bytes	◆ PASS
9835503.pdf	46	Foreign Reference	3234120 bytes	◆ PASS
Differential_Coding.pdf	6	NPL Documents	399118 bytes	◆ PASS
ITU-T.pdf	3	NPL Documents	260738 bytes	◆ PASS



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- *Send general questions about USPTO programs to the [USPTO Contact Center \(UCC\)](#).*
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April 30, 2009

Costa Mesa, California 92626

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PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

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US Patent No. 5,241,383

WO 98/35503

ITU-T Recommendation H.262, International Standard ISO/IEC 13818.2 MPEG-2 Video. Transmission of Non-Telephone Signals. Information Technology - Generic Coding of Moving Pictures and Associated Audio Information: Video. ITU-T Telecommunication Standardization Sector of ITU, Geneva, Switzerland, July 1, 1995, Pages 54-55, 68.

Yun Q. Shi, Huifan Sun: "Image and Video Compression for Multimedia Engineering" CRC Press, 2000, Pages 55-60.

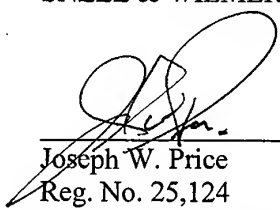
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Very truly yours,

SNELL & WILMER LLP



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Costa Mesa, CA 92626-7689

Tel: 714-427-7420

Fax: 714-427-7499

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>				Docket Number (Optional)		Application Number		
				44802-0300		10/569,871		
				Applicant(s)				
				Shinya Kadono et al.				
				Filing Date		Group Art Unit		
				February 28, 2006		2624		
<b>U. S. PATENT DOCUMENTS</b>								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
		5,241,383	8.31.1993	Chen et al.				
<b>U.S. PATENT APPLICATION PUBLICATIONS</b>								
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
<b>FOREIGN PATENT DOCUMENTS</b>								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
		98/35503	8.13.1998	WIPO			YES	NO
							X	
<b>OTHER DOCUMENTS</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>								
		ITU-T Recommendation H.262, International Standard ISO/IEC 13818.2 MPEG-2 Video. Transmission of Non-Telephone Signals. Information Technology - Generic Coding of Moving Pictures and Associated Audio Information: Video. ITU-T Telecommunication Standardization Sector of ITU, Geneva, Switzerland, July 1, 1995, Pages 54-55, 68.						
		Yun Q. Shi, Huifant Sun: "Image and Video Compression for Multimedia Engineering" CRC Press, 2000, Pages 55-60.						
EXAMINER				DATE CONSIDERED				
<b>EXAMINER:</b> Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								